

The sum of the digits of a two-digit number is 7. When the digits are reversed, the number is increased by 27. Find the number.

$\overline{x} \quad \overline{y}$

$$x + y = 7$$

$$10x + y + 27 = 10y + x$$

$$\frac{9x}{9} + \frac{27}{9} = \frac{9y}{9}$$

$$x + 3 = y$$

$$x + (x + 3) = 7$$

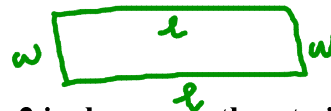
$$2x + 3 = 7$$

$$2x = 4$$

$$x = 2$$

$$2 + y = 7$$

$$y = 5$$



The perimeter of a rectangle is 34 inches. If the length is 2 inches more than twice the width, find the length and the width of the rectangle.

$$34 = 2w + 2l$$

$$2w + 2 = l$$

$$34 = 2w + 2(2w + 2)$$

$$34 = 2w + 4w + 4$$

$$34 = 6w + 4$$

$$\begin{array}{r} -4 \end{array}$$

$$30 = 6w$$

$$w = 5$$

$$34 = 2(5) + 2l$$

$$34 = 10 + 2l$$

$$\begin{array}{r} -10 \end{array}$$

$$24 = 2l$$

$$12 = l$$

The admission fee at a small fair is \$1.50 for children and \$4.00 for adults. On a certain day, 2200 people enter the fair and \$5050 is collected. How many children and how many adults attended?

$$\begin{array}{rcl}
 & -4(C + a = 2200) & \\
 & 1.5c + 4a = 5050 & \\
 + & -4c - 4a = -8800 & \\
 \hline
 & -2.5c & = -3750 \\
 & \underline{-2.5} & \underline{-2.5} \\
 & C = 1500 & \\
 & 1500 + a = 2200 & \\
 & a = 700 & 
 \end{array}$$